

Volcano!

BY RENEE SKELTON

Fiery hot lava flows down a Hawaiian mountainside like dark, thick syrup. When it reaches the sea, it hisses and explodes in scalding jets of steam.

Farther up the slope, volcanologist Ken Hon picks his way slowly across the rough surface. The hot lava is slippery to walk on. "It's like walking on ice," Hon says. "But the bottom part of your boots starts to melt a little. If you fall, you'll get burned."

Hon plants his feet carefully and slowly. He is collecting data on the lava flowing out of Kilauea (kee-luh-WAY-uh, shown here), a volcano that has been erupting since 1983. Knowing the lava's movements can save lives on the slopes below. But Hon must be careful. New waves of lava are flowing down toward him. Every few minutes he looks up to see where the streams are and makes sure the moving lava hasn't cut off his escape route.

"It's searing hot out there—like the heat from an oven," Hon says. "Up close, you have to wear firefighters' gear so the clothes you're wearing don't catch on fire or melt."

SLOW FLOW

Earth's interior is so hot that rock softens and flows. Volcanoes form at certain places where liquid rock, or magma, pushes through cracks to the Earth's surface. The cracks eject lava, which is what magma is called when it reaches the surface. Ash that forms volcanic mountains also explodes from the crater. Some volcanoes, such as Kilauea, typically erupt gently. But they can pour out rivers of lava that engulf everything in their path. "Back in 1990, lava entered the town of Kalapana. The lava moved slowly but steadily," Hon says. "We had to evacuate people from about 150 homes. The lava inched forward and consumed all of the houses." Everyone escaped. But today Kalapana is buried under 30 feet of lava.

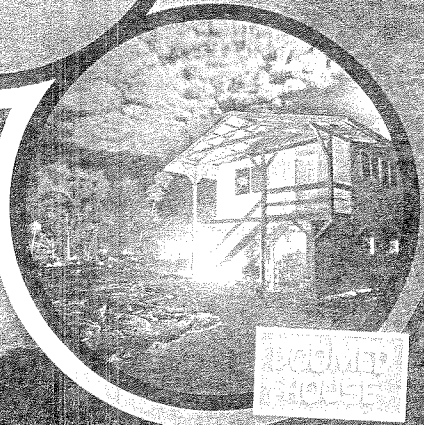
Volcanoes aren't scary to Hon. They're fascinating and exciting. "My favorite thing is to camp out at the edge of a lava lake. Sometimes I've had to sleep with a gas mask on." Still, Hon knows how to keep safe—and knows when the lava is too close. "All of a sudden, it gets really bright inside your tent!" he says, laughing. But the danger is worth it, because the more Hon and other scientists can learn about volcanoes, the safer they can keep the people who live around these powerful forces of nature.

Hawaii's Mauna Loa is the world's largest active volcano.

More than 1,500 volcanoes on Earth are active.

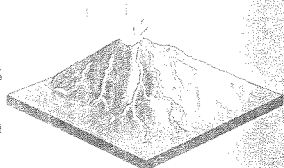
Lava flowing from a volcano can be as hot as 2000°F.

CRACKS
TO
THE
SURFACE

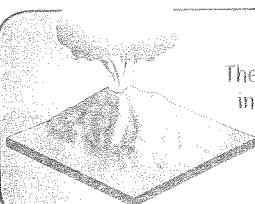


LAVA

Lava sprays through cracks in the Earth and flows down the slopes.



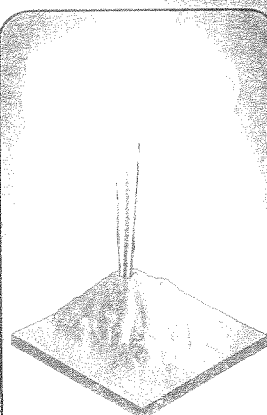
The pressure in the gas inside stickier magma increases, causing small but frequent bursts of lava.



Stickier magma forms a dome in the volcano's opening. The dome collapses and then explodes, sending ash and rock down the volcano's sides.



The stickiest magma traps large amounts of gas and produces great pressure in the magma chamber. The gas blows the magma into pieces, shooting ash and rock miles into the air.



Get Out of the Way!

As magma moves upward inside a volcano, the volcano becomes more likely to erupt. Here are signs that it might be happening.

Many small or moderate earthquakes

Bulges and other deformations in the volcano's surface

Major changes in the release of gases from cracks and other openings

